THE ALL-VOLUNTEER FORCE: FIVE YEARS LATER

Richard V.L. Cooper

December 1977
The Rand Paper Series

Papers are issued by The Rand Corporation as a service to its professional staff. Their purpose is to facilitate the exchange of ideas among those who share the author’s research interests; Papers are not reports prepared in fulfillment of Rand’s contracts or grants. Views expressed in a Paper are the author’s own, and are not necessarily shared by Rand or its research sponsors.

The Rand Corporation
Santa Monica, California 90406
THE ALL-VOLUNTEER FORCE: FIVE YEARS LATER*

by Richard V.L. Cooper
The Rand Corporation

For the approximately two million young American men who reach military age each year, there is probably no single public policy decision in the past 25 years more important than the termination of the draft in 1973. The importance of this decision, however, goes far beyond the implications for those most immediately affected by the draft's removal. Whether viewed as an instrument of economic and social policy or in terms of its effects on the maintenance of the U.S. defense effort, the draft was a key element of public policy and touched on nearly every aspect of defense management.

The advent of the All-Volunteer Force (AVF) accordingly marks the beginning of one of the largest and most important experiments of its type ever conducted. With the exception of a short 18-month hiatus in the draft following World War II, the Armed Services have been forced to rely on true volunteers as their sole source of military manpower for the first time in more than three decades. Never before in modern history has a nation with such global military responsibilities or such an emphasis on defense been without the authority to conscript young men into military service. Together with the skyrocketing manpower costs and tight defense budgets that have characterized the 1970s, the removal of the draft has served to make military manpower one of the key concerns in the Pentagon and on Capitol Hill.

*This article is based on a recent report by the author, Military Manpower and the All-Volunteer Force, The Rand Corporation, R-1450-ARPA, September 1977.
Just as the volunteer force was borne amidst some controversy, it has continued to attract considerable public attention during the past five years. From General William Westmoreland, who declared scarcely one week after the authority to draft had expired, "As a nation we moved too fast in eliminating the draft," to Senator Sam Nunn, who claimed about four years later that "The All-Volunteer Force may be a luxury that the United States can no longer afford," the AVF has been the subject of an often heated public debate.

The purpose of this article is therefore to provide a brief, but broad assessment of these first five years of defense without the draft. Indeed, how policies evolve and how the military responds will clearly play a key role in shaping U.S. defense posture and social policy for the remainder of this century. The paper is divided into four parts: the first provides a brief discussion of why the draft was ended; the second examines the evidence from the first five years without conscription; the third explores some of the changes that may be needed to make military manpower policy consistent with an all-volunteer environment; and the last provides some brief conclusions.
THE DECISION TO END THE DRAFT

Although the volunteer force is frequently viewed as an outgrowth of the Vietnam War, the move to end the draft actually had much deeper roots. To be sure, the Vietnam War did play an important role in the sixties' draft debate, especially in dramatizing the issues. But the basic policy problem of the sixties can be traced to the growing inequities of the selective service draft--inequities created by the selective way that the burden of military service was applied to young men of military age.

This selectivity came as a result of some simple demographic trends: specifically, increasing numbers of young men reaching military age each year and constant (or decreasing) force sizes meant that a smaller proportion of the military aged cohort would actually serve. In fact, by the mid-1970s only one out of every four or five young men would ever serve in the military. Coupled with the pay discrimination toward junior military personnel that characterized the post-war draft, the demographics of a growing military aged population meant that a decreasing proportion of the population would have to bear an increasingly large burden--hence, the inequity.[1]

The President's Commission on an All-Volunteer Armed Force--or so-called Gates Commission [2]--argued persuasively that those

---

[1] Moreover, because legal draft-avoidance activities such as attending college and working in sheltered occupations were generally less available to the economically disadvantaged, the burden of the draft fell most heavily on those least able to afford it--namely, the poor and the black. For example, the author has estimated elsewhere that white college graduates as a whole paid only about 1.1 percent of their discounted lifetime earnings in the form of the "conscription tax", as opposed to about 3.4 percent for black high school dropouts. See Cooper, Military Manpower . . ., Chapter 5.

forced to serve in the military should not have to pay a large financial penalty in addition to the other burdens of involuntary servitude, and accordingly recommended that recruit pay should be raised to a level commensurate with that earned by comparably aged and educated civilian workers.[3] Interestingly, the Commission estimated that if this "equity" pay raise were implemented, enough volunteers to staff a 2.5 million man force could be attracted, so that a draft would no longer be necessary. In other words, achieving an all-volunteer military would not require any extraordinary measures; instead, it basically meant the payment of a "market wage" to new recruits.

The Commission went on to conclude that an all-volunteer force was not only "feasible", but also "desirable." That is, no matter how "fair" the initial selection process is, there is no fair way of distributing the burden of involuntary military service after the fact. Congress concurred, but only after lengthy arguments—indeed, the Senate had to resort to a cloture vote to end seven weeks of filibustering. The end result, though, was a raise in military pay, more or less as recommended by the Gates Commission, and only a two-year extension of the draft, to ease the transition to a volunteer military.

[3] It is perhaps ironic, but a volunteer force might actually require a smaller pay raise than equity arguments would imply were needed for a drafted force. That is, whereas the equity approach argues for raising the draft wage to a level comparable with civilian wages, the wage in a volunteer force should presumably be set so as to just clear the market, an amount that can theoretically be less than, equal to, or greater than the so-called equity wage.
The substantive debate having taken place two years earlier, the actual end of the draft came rather quietly in January 1973, six months before the formal authority to draft expired. Because of the rapid post-Vietnam force reductions, Secretary of Defense Melvin Laird announced then that there would be no more draft calls.
EARLY EXPERIENCE WITH THE ALL-VOLUNTEER FORCE

Despite the volume of research and analysis that preceded the volunteer force, it remained for the draft to actually end to determine whether an all-volunteer military would work in fact as well as in theory. The five years since 1973 accordingly provide the opportunity to assess the effects from what must be regarded as one of the largest public policy experiments of its type ever conducted.

Consideration of the evidence from these past five years is motivated further by the fact that the AVF has not been without its own debate and controversy, as indicated in the introduction. Although it will be argued below that much of this concern has been misplaced, the emerging debate about the volunteer force does provide a useful guide to the major AVF issues. In this regard, the post-draft debate has raised a number of questions about the All-Volunteer Force, but four in particular stand out. These include whether the military services can attract an adequate number of enlisted volunteers in the absence of a draft[4]; whether these volunteers will be of sufficient quality; whether the volunteer force has resulted in a force that is no longer representative of the American people; and to what extent the enormous growth in manpower costs that has taken place in recent years is attributable to the volunteer force. The discussion below briefly reviews the AVF experience with respect to each of these, and then concludes with an examination of the major remaining AVF problems.

[4] Most analyses (e.g., the Gates commission) have long indicated that the military would be able to attract more than enough officers without the pressure of a draft, so officer acquisition has never really been a major AVF issue. This has in fact turned out to be the case, as the military has actually had to turn away ROTC candidates.
Quality

Although the problems associated with obtaining adequate numbers of recruits might seem to take precedence over those associated with the quality of new entrants, it is not possible to assess fully the quantitative aspects of volunteer recruitment without first considering quality and qualitative restrictions. That is, to the extent that they set qualitative standards that exclude potential applicants, the military services are affecting observed supply, so to understand enlistment quantity, we must first examine quality.

In a general sense, "quality" refers to those aspects and attributes of military personnel that are deemed desirable and contribute to a more productive, capable, and better motivated force. The problem, of course, is that there is no ready measure of quality, let alone a precise definition. In the absence of such measures, quality has come to be interpreted in terms of certain measurable attributes possessed by those in or entering into the military, such as mental aptitude and educational attainment.[5] Traditionally, and empirically, it is the numbers or percentages of marginally acceptable recruits—i.e., Mental Category IV and non-high school graduates—that are used to describe the quality of new personnel,

---

[5] Applicants for enlistment (or potential draftees) are tested for mental aptitude and, as a result of this test, are classified into one of five so-called mental categories (Category I through Category V). Those in the top 7 percent of the population are classified as Category I, while those in Category V are the bottom 10 percent. Category V personnel are legally ineligible to serve in the military, but the Services also try to limit the numbers of Category IVs accepted (i.e., those in the 10th to 30th percentiles of the mental aptitude spectrum).
where smaller non-high school graduate and Category IV percentages are thus viewed as indicating higher quality.[6]

Overall, the results presented in Figure 1 show that the quality of enlisted accessions has not changed markedly since the removal of the draft.[7] If anything, quality would seem to have actually increased, and though not explicitly shown, this is especially so since the 1974-75 economic recession. For example, the percentage of enlisted accessions that are not high school graduates has remained at roughly the historic average—about 35 percent under the AVF as opposed to about 30 percent under the draft between 1960 and 1972. On the other hand, the percentage of accessions falling in Mental Category IV has been cut by more than two-thirds since the removal of the draft, from an average of 19 percent during the last 13 years of the draft to about 6 percent during the first five years of the volunteer force.[8]

For the most part, then, concerns about declining quality under the AVF are largely unfounded. In fact, the real question is whether

---

[6] The reasons for limiting the numbers of Category IV recruits stem primarily from the fact that they do not do as well in formal training courses and, as a result, can only be used in a limited number of jobs. The problem with non-high school graduates, on the other hand, is that they seem to exhibit much higher disciplinary and motivational problems than those who have successfully completed high school.

[7] The term "enlisted accessions" refers to all new recruits—i.e., enlistees and draftees.

[8] Actually, the Army is the only Service to have seen an increase in its non-high school graduate percentage, having increased from 33 percent under the draft to 44 percent with the AVF. The Navy and Air Force have each seen their non-high school graduate percentages decline: from 30 percent to 27 percent for the Navy and from 15 percent to 13 percent for the Air Force. The Marine Corps non-high school graduate percentage has remained at 45 percent during both the draft and AVF. Each of the Services, however, has decreased its Category IV percentage: Army, from 24 percent to 11 percent (and to 7 percent in fiscal 1977); Navy, 14 percent to 4 percent; Marines, 18 percent to 5 percent; and Air Force, 11 percent to less than 1 percent.
Fig. 1 — Enlistment Quality: Percent Non-High School Graduates and Percent Mental Category IV
the Services have set quality standards that are too restrictive, not too lenient--especially with respect to mental aptitude. To understand this, it is important to recognize that the military services have basically taken what might best be described as a "marketing" approach to quality--that is, they have attempted to maximize quality within the available market. Thus, rather than set quality standards according to what specific jobs actually require, the Services have simply attempted to minimize the numbers of Category IV recruits.

There are several problems inherent in this approach, of which three will be mentioned here. First, when quality standards are set too high, many personnel will be assigned to jobs for which they are overqualified. This, in turn, can create job dissatisfaction and can lead to higher personnel turnover. Second, the Services' almost exclusive focus on reducing the number of Category IV recruits has been responsible for the modest increase in the number of non-high school graduate accessions since, given a scarce supply of manpower, tightening one quality screen (mental aptitude) means that others (e.g., educational attainment) must be relaxed, other things equal. Most analyses, however, suggest that Category IV high school graduates are more productive on the job, pose fewer disciplinary problems, and have lower attrition rates than Category I-III high school dropouts.[9] Perhaps the most important problem with the current approach to quality, though, is one discussed below in the context of enlistment supply and demand.

Specifically, the Services may view current quality standards as a downward bound in the years ahead, even when Category I-III applicants are in scarcer supply.

To summarize, although the AVF debate has tended to focus on the question of declining quality, the evidence shows quality under the AVF to be as good or better than it was under the draft. Instead, the real problem would seem to concern how quality standards are managed.

Enlistment Supply and Demand

Paramount among the issues raised during both the draft debate of the 1960s and the AVF debate of the 1970s has been whether the military would be able to attract a sufficient number of volunteers without a draft. Specific concerns have centered first on the recruiting shortfalls that characterized much of the first year without the draft (and that surfaced again during the summer of 1976); second, on whether continued success of the volunteer force depends on continued high unemployment rates; and, third, on what the decreasing numbers of young men reaching military age that begins to take place about 1980 means for the future of the volunteer force. Interestingly, most of the attention has focused on the supply side of the recruiting problem, leaving the demand for new recruits virtually unquestioned. Yet, enlistment demand will be shown to be probably the single most important AVF issue.

To begin with, the evidence presented in Fig. 2 shows that the Armed Forces have for the most part fared quite well in terms of their quantitative recruiting objectives. With few exceptions, the Services as a whole have been successful in attracting the 400,000 or so new
Fig. 2 — AVF Enlistments and Objectives

Source: Department of Defense
recruits each year that they have deemed necessary to meet force strength requirements.[10] Moreover, to the extent that there have been some recruiting problems--e.g., Fig. 2 shows that the Services fell about 6 percent short of their recruiting objectives during calendar 1973, the first year without the draft--these problems cannot really be attributed to the volunteer force per se. Rather, they appear to have been a result of the way that the AVF was initially managed. For example, the Army had about 1000 fewer recruiters in the field during the summer of 1973 than it did during the last year of the draft, while simultaneously raising its quality standards. These first-year recruiting shortfalls do not therefore seem to be indicative of longer run recruiting problems, though they do show that future recruiting problems can occur if the force is not properly managed.

Next, high unemployment rates, though certainly aiding the recruiting effort, do not appear to be responsible for the success of the volunteer force. Since a 10 percent change in the unemployment rate for young males results in only a 2 or 3 percent change

[10] It is important to recognize that enlistment flow is only a means for achieving the ultimate objective, desired force strengths. Overall, the Services' record in maintaining force strength objectives has been even more impressive than their recruiting progress. In only one case--the Marine Corps in fiscal 1974--was actual enlisted strength off the target by more than 0.5 percent. In fact, it is interesting to note that the Army, though reporting a fiscal 1974 recruiting deficit of 12,000, actually ended the fiscal year 2,700 overstrength!
in the number of enlistments,[11] the future of the AVF would not appear to depend on continued high unemployment. Rather, the main effect of the 1974-75 economic recession was to enable the military services to implement and sustain unusually high quality standards--higher than at any time during the draft. For example, not only were the Services able to reduce their Category IV intake from 19 percent during the draft to 11 percent during the first year of the volunteer force, but the Category IV rate was reduced to 4 percent by 1976. The danger in this, as indicated earlier, is that the military may insist on maintaining these high quality standards in the future when there is a less plentiful manpower supply, despite the fact that the "need" for these standards is questionable. In other words, insistence on maintaining unnecessarily restrictive quality standards could lead to unneeded bonuses (to attract enough "high quality" recruits from a scarcer supply) and/or recruiting deficits in the future.

For the most part, then, enlistment supply has not been a problem under the AVF. Indeed, actual supply under the volunteer force closely matches what the Gates Commission originally projected that it would be. Stated differently, one of the key parameters initially used to judge the viability of an all-volunteer military--i.e., enlistment supply without a draft--has in fact proved to be correct.

Looking ahead, it is clear from the supply and demand projections shown in Fig. 3 that the future of the volunteer force depends critically upon the Services' demand for new enlistments, not just on enlistment supply.[12]. Based on the Services' own projections of their future recruiting needs, the results presented in Fig. 3 suggest that the military will successfully weather the 1980's decline in the population of military-aged males only if youth unemployment remains high.

There is a fundamental problem with this approach, however, in that it takes the Services' projected recruiting practices and needs as given. To begin with, recruiting objectives (i.e., enlistment demand) are a function not only of force sizes, but of personnel turnover rates. Personnel turnover, in turn, is a direct result of Service policies regarding reenlistment and early separation—that is, as fewer personnel are allowed or encouraged to reenlist, the demand for new recruits will be larger.

[12] The model used to make the enlistment supply projections shown in Fig. 3 was developed elsewhere by the author (see Cooper, Military Manpower . . .); it estimates the enlistment rate (i.e., enlistment supply relative to the military-aged population cohort) as a function of military pay relative to civilian pay, the number of recruiters used by the military, and the unemployment rate over the period 1970 to 1977 ("true volunteer" enlistments were used for periods prior to the removal of the draft). The projections shown in Fig. 3 are based on the assumptions that military pay maintains its position relative to private sector wages and salaries, that the Services maintain their present recruiting effort, and that the Services' quality standards will continue as they have during the first five years of the AVF. The high unemployment scenario corresponds to a 19.5 percent youth unemployment rate (equivalent to a 7-8 percent overall unemployment rate); average unemployment scenario, 13.5 percent youth unemployment (i.e., 5-5.5 overall unemployment); and low unemployment scenario, 7.5 percent youth unemployment (i.e., 3 percent overall unemployment rate). Barring major shifts in public attitudes toward military service, the supply projections from this model are probably reasonably good, as they correspond well with a number of other supply studies.
Fig. 3 — Male Enlistment Supply and Demand Projections

As a result of deliberate Service policies such as limiting the numbers of reenlistments [13], the military services actually have larger accession requirements--i.e., higher turnover--under the volunteer force than they did under the draft. For example, the Services collectively had personnel turnover rates of about 22 percent during the pre-Vietnam draft, as opposed to 24 percent for the first five years of the volunteer force (and 24 percent as projected for the next five years). But, it is important to recognize that this increased demand for enlisted accessions (relative to the draft years) is basically policy driven--that is, it is not attributable to the volunteer force, but is instead a direct result of the Services' insistence on maintaining a very junior enlisted force.[14]

If the Services' male enlisted accession requirements are instead reduced according to the original recommendations of the Gates Commission or as suggested elsewhere by the author [15]--by increasing the numbers of reenlistments--Fig. 3 shows that there will be a more than sufficient supply of enlisted manpower throughout the 1980s, even under the most robust economic outlook. In other words, manpower supply would not appear to be the "problem," although several recent studies indicate that supply could be enhanced by allowing more women to join and by relaxing some of the physical (i.e., medical) standards used to screen applicants for

---

[13] To illustrate the magnitude of these limitations, of the 84,634 Air Force servicemen that successfully completed their first tour of duty in fiscal 1976, 38,575 were not even permitted to try reenlisting.

[14] This will be discussed later in this article.

[15] The Gates Commission's recommended turnover rate was 15-16 percent; the author has estimated the "cost-effective" turnover rate to be 17-19 percent.
enlistment. [16] The basic problem is rather one of reducing personnel turnover--and, hence, in reducing enlistment demand. In fact, the original decision to end the draft was predicated on the assumption that demand would be so reduced.

**Social Representation**

It is ironic, but one of the key issues to emerge out of the volunteer experience has been whether the AVF would lead to a military composed mainly of the poor and the black, and more generally, whether a volunteer military would be socially representative of the mainstream of American society. The irony, of course, is that the historically unrepresentative nature of conscription not only led to the introduction of the lottery draft in 1969, but was also one of the principle reasons for the demise of the draft. Whether due to explicit policy decisions such as those characterizing the 1918 draft selection process--where individuals were drafted in ascending order according to their "value to society"--or more subtle forms of discrimination such as those represented by post-World War II selective service deferment policy, it has been generally well-recognized that the draft placed a disproportionate burden on the poor and others less able to find ways of avoiding induction.

[16] Binkin and Bach estimate that the number of women accessed could be increased significantly, perhaps doubled. Chu and Norrbloom estimate that a modest relaxation of physical standards in nine areas (e.g., height, weight, blood pressure, etc.) could result in a 5-10 percent increase in enlistment supply; West, et. al., come to basically the same conclusion. See Martin Binkin and Shirley J. Bach, Women and the Military, The Brookings Institution, Washington, D.C., 1977; David S.C. Chu and Eva Norrbloom, Physical Standards in an All-Volunteer Force, the Rand Corporation, Santa Monica, California, 1974; and Anita S. West, et. al., Reducing Physical Standards for Navy Recruits, Denver Research Institute, University of Denver, Denver, 1973.
Although Table 1 shows that black participation in the armed forces has in fact risen significantly during the past 15 years, it also shows that this increase is largely unrelated to the volunteer force per se. The rising proportion of blacks in the force is instead due mainly to the increasing numbers of blacks found eligible for military service. Specifically, although blacks continue to score less well on mental aptitude screening tests than whites, the proportion of blacks failing to qualify for military service has decreased significantly over the past 20 years, much more so than for nonblacks. For example, the proportion of young blacks classified as Category I-III has increased from about 13 percent in the mid 1950s to about 45 percent today. [17] Because of this, Table 1 shows that the black proportion of the "prime" manpower pool--i.e., Mental Categories I-III--has increased from a little under 3 percent in 1960 to more than 7 percent today, an increase of almost 2 1/2 times.

In fact, the ratio of the black percentage of Category I-III male enlisted accessions to the black percentage of 18 year old Category I-III male population has remained between 1.6 and 2.6 for the past fifteen years. Moreover, not only is there no clear trend in this ratio, but what variations there have been can be explained mostly by the unusually large unemployment rates experienced by black youth (relative to whites) during the 1970s. That is, whereas unemployment rates for black youth have historically averaged about 10 percentage points above those for white youth, this difference jumped to 18 percentage points in 1974. Thus,

[17] This is consistent with high school graduation rates, which have increased much more for blacks than nonblacks over the past 20 years.
Table 1

Determinants of Racial Composition of Enlisted Accessions

<table>
<thead>
<tr>
<th></th>
<th>Fiscal Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Enlisted Accessions:</td>
<td></td>
</tr>
<tr>
<td>Percent black</td>
<td>8 10 12 15 21 16</td>
</tr>
<tr>
<td>(2) Category I-III Accessions:</td>
<td></td>
</tr>
<tr>
<td>Percent black</td>
<td>6 7 7 10 18 15</td>
</tr>
<tr>
<td>(3) 18 Year-Old Category</td>
<td></td>
</tr>
<tr>
<td>I-III Male Population:</td>
<td></td>
</tr>
<tr>
<td>Percent black</td>
<td>2.9 3.5 4.5 5.5 6.8 7.1</td>
</tr>
<tr>
<td>(4) Ratio of Row (2) to Row (3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.1 2.0 1.6 1.8 2.6 2.1</td>
</tr>
<tr>
<td>(5) 18 to 19 Year-Old Male</td>
<td></td>
</tr>
<tr>
<td>Unemployment Rates: Difference between Black &amp; White (percent)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 10 11 16 18 16</td>
</tr>
</tbody>
</table>

the changing racial composition of the enlisted force is not attributable to the volunteer force, but rather to changing demographic and economic variables.

Upon reflection, then, what has frequently been cast in negative terms during the course of the AVF ought really to be viewed as a positive sign—specifically, an increasing portion of the young black population is qualifying for military service, despite the raised quality standards. There are other positive signs as well, such as the major strides that the military has made with respect to increasing black participation in the officer corps. Whereas only about 1 percent of all entering officers in 1960 were black, the Services have been successful in raising this proportion to about 7 percent today—about the same percentage as the black share of the 22 to 24 year old college graduate population. On the enlisted side, progress has also been made in distributing blacks more evenly among military occupations. For example, in 1964 about one out of every six blacks was in the combat arms (as opposed to about one out of every 11 nonblacks); by 1975, it was about one out of every eight blacks, versus one out of every 10 or 11 nonblacks.

Overall, two general conclusions thus emerge. The first is that the racial composition of the Armed Forces today would be approximately the same whether or not the draft had been ended. [18] Second, the Services have made significant progress in dealing with the race issue, and its derivatives. There are, of course, still problems,

[18] Note that the only ways of ensuring proportional representation of all racial, ethnic, and socioeconomic groups are either to implement a system of strict quotas or to maintain universal conscription where all serve. The former is clearly unconstitutional, while the latter would result in military force sizes of some 4 to 5 million members.
as evidenced by the much publicized recent Ku Klux Klan activities in the military. But, these problems, as well as the substantial progress that has taken place, are largely unrelated to the volunteer force.

A second aspect of the representation issue concerns broader measures of socioeconomic status, since some have generalized the changing racial composition of the force to mean further that the military has come to rely more heavily on the poor since the end of the draft. The evidence, however, indicates that this is simply not true. For example, Table 2 shows that those ZIP codes representing the top 5 percent of all ZIP codes in the country in terms of average family income account for approximately the same percentage of enlisted accessions under the AVF as they did under the lottery draft—presumably the most socially representative period of peacetime conscription. Medium and low income areas are similarly contributing approximately the same percentages as they did under the draft. In other words, today’s volunteer soldiers are coming in almost the same identical proportions from wealthy, medium income, and poor areas as did their drafted and draft-motivated predecessors. Moreover, whatever little change that has occurred since the removal of the draft is entirely explained by the changing racial composition of the force, since blacks tend to reside in lower income areas than whites. In fact, Table 2 shows that whites and blacks individually each seem to be coming in the same or slightly larger numbers from high income areas under the AVF than they did under the draft, though the differences are again quite small.

With the exception of the racial composition of the force, which has changed over time, we thus find little or no difference in
Table 2

Distribution of Enlisted Accessions According to the Average Family Income of Their Home Address Zip Codes (percent)

<table>
<thead>
<tr>
<th>Areas</th>
<th>All Accessions</th>
<th>White Accessions</th>
<th>Black Accessions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Draft</td>
<td>AVF</td>
<td>Draft</td>
</tr>
<tr>
<td>Highest Income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Top 5%)</td>
<td>3.2</td>
<td>3.0</td>
<td>3.7</td>
</tr>
<tr>
<td>High Income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(75%-95%)</td>
<td>24.4</td>
<td>23.9</td>
<td>27.6</td>
</tr>
<tr>
<td>Medium Income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(25%-75%)</td>
<td>55.0</td>
<td>54.9</td>
<td>56.1</td>
</tr>
<tr>
<td>Low Income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(5%-25%)</td>
<td>16.1</td>
<td>17.0</td>
<td>10.3</td>
</tr>
<tr>
<td>Lowest Income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Bottom 5%)</td>
<td>1.2</td>
<td>1.2</td>
<td>1.3</td>
</tr>
</tbody>
</table>

the socioeconomic background of those entering under today's volunteer forces as opposed to yesterday's drafted forces.[19] The reason for this is twofold. On the one hand, those most opposed to serving in the military generally found ways of avoiding the draft, such as going to college, entering sheltered occupations, getting married,[20] etc. On the other, military service apparently continues to be seen as an attractive employment option for a broad cross-section of American youth, whether such service is a career or a single tour.

**AVF Costs**

With the dramatic growth in defense manpower costs over the past 10 to 15 years, it is easy to see why manpower costs in general and the presumed cost of the volunteer force in particular have become so important. Manpower costs increased from about $22 billion in 1964 to more than $50 billion in 1976. Furthermore, this increase has come at the expense of other defense items such as force modernization, since the manpower share of the defense budget over the same period increased from about 45 percent to about 56 percent.

Attribution of this enormous cost growth to the volunteer force is, however, plainly incorrect. Focusing on the amount that is paid to defense personnel, the factors leading to the considerable growth in manpower costs can instead be traced to

---

[19] This conclusion is buttressed by a number of further analyses conducted by the author, including examination of other socioeconomic indicators (e.g., education of parents) and comparisons of these aggregate ZIP code results with individual background measures of socioeconomic status. See Cooper, *Military Manpower . . .*, op. cit., Chapter 10.

[20] To illustrate, when the marriage deferment was introduced in the early 1960s, marriage rates among draft eligibles jumped by about 10 percentage points almost immediately.
events that began nearly three decades ago. To begin with, whereas the military had historically relied on a 30-year career, the immediate post-World War II period saw the first widespread implementation and use of the 20-year military career—a policy that would come to have a dramatic effect on defense manpower costs about 25 years later.

There were relatively few changes in compensation and retirement policy during the 1950s, the main ones being the introduction of reenlistment bonuses in 1952, the Civilian Health and Medical Program for the Uniformed Services (CHAMPUS) in 1956, and proficiency pay in 1958. Many such changes, however, were implemented during the 1960s. For example, the "comparability" pay principle for civilian employees of the Federal government was introduced, whereby the official policy became one of paying General Schedule personnel at a level comparable to private sector wages and salaries.[21] Similarly, although military pay had been increased at only infrequent intervals during the 1940s and 1950s, 1963 marked the beginning of annual pay increases for career military personnel. Even entering recruits, whose pay had been frozen since 1952, began to receive annual pay increases starting in 1965.

The Rivers Amendment, passed in 1967, required further that military pay increases be made comparable percentage wise to the pay increases for the white-collar Federal civilian workforce. The Rivers Amendment had an interesting feature in that it also mandated

[21] The Defense Department directly employs about 1 million civilian personnel, and about 625,000 of these are paid according to the General Schedule system.
that the entire increase go to basic military pay, which makes up only a portion of total military pay. Thus, to keep the percentage increase for total military pay comparable to that for Federal civilians, every 4 percent increase in Federal civilian pay resulted in a 5 percent increase in basic military pay. Because other compensation items such as retirement and separation pay are tied not to total pay but to basic pay, these other items (often called "drag alongs") increased much faster than they probably should have. Moreover, loading the entire pay increase into basic pay, rather than distributing the increase across all components of RMC, created the illusion that the basic allowance for quarters (BAQ) was lagging behind what it ought to be. This then resulted in pressure to also increase BAQ, despite the fact that the basic pay increase was made larger to compensate for the lack of increase in BAQ. Indeed, this pressure was largely responsible for the politically inspired, $700 million increase in BAQ that was tacked onto the 1971 AVF pay increase.

In addition to the Rivers Amendment, so-called "catch-up" pay increases for career military personnel--to bring their pay in line with private wages and salaries--were put into effect during the period 1967 to 1969.

Pay policy was not the only item to evidence change during the 1960s: the military fringe benefit package was also improved, especially for retired personnel. For example, 1966 saw a substantial

[22] The civilian salary equivalent of military pay equals the sum of basic military pay, allowances for quarters and subsistence (either cash or in-kind), and the "tax advantage" that accrues to military personnel since these allowances are not taxed as income. This sum is frequently referred to as regular military compensation (RMC). Typically, basic pay makes up about 75 percent of RMC.
liberalization in the CHAMPUS program, including increases in both the benefits and the number of beneficiaries (primarily the inclusion of retired personnel). In fact, this liberalization would be largely responsible for driving the costs of CHAMPUS up to more than $700 million by 1978. Implementation of the "one percent kicker" for adjusting Federal military and civilian retired pay in 1969 meant that for every 3 percent increase in the cost of living, there would be a 4 percent increase in retired pay, thus increasing retirement costs even more than the cost of living. By 1976, when it was finally eliminated, the "one percent kicker" had added some $400 million to the annual cost of military retirement.

The 1970s witnessed the beginning of the so-called automatic annual pay increases for Federal employees, the substantial increase in quarters allowances for career military personnel that was tacked on to the 1971 AVF pay bill, and the double pay increase for all Federal employees that was implemented in 1972. Together, these various changes in pay policy meant that the amount paid to defense personnel—military and civilian alike—would be largely outside the control of either the DoD or the Congress, except of course for explicit intervention to the contrary, such as the AVF pay increase in 1971 and the pay "caps" implemented in 1975-1976.

Thus, the list goes on. In fact, the only increased compensation costs that can be even remotely related to the volunteer force are the large pay increase for first-term military personnel and the enlistment bonuses which were implemented in 1971. As noted earlier, even the first-term pay increase should not really be viewed as an AVF cost, since the Gates Commission argued vigorously that pay
discrimination against junior military personnel ought to be eliminated for equity reasons alone—whether or not the draft was to be ended.

This discussion is not, of course, meant to provide an all-inclusive list of the factors that have affected defense manpower compensation costs over the years. Nor is it meant to imply that any or all of these changes that have taken place are necessarily inappropriate. Rather, the point is simply that increasing manpower costs are a direct result of the individual and cumulative effects of many different policy decisions implemented since the end of World War II—almost all of which were entirely unrelated to the volunteer force. Thus, although manpower costs are clearly an important problem, they are just as clearly not a result of the volunteer force.

The end result is that the volunteer force has added less than $300 million to the cost of defense manpower—about two-tenths of 1 percent of the defense budget. The reason why the draft provides so little leverage over manpower costs in the post-Vietnam environment is amply illustrated by Table 3, which shows that the cost elements over which the draft provides little or no control are the ones that have been primarily responsible for the enormous increase in defense manpower costs. Between 1964 and 1976, for example, the costs for retired personnel increased about six times; the costs for civilian personnel employed by the DoD almost doubled; the costs for uniformed personnel beyond the first two years of service almost doubled; and the costs for "other" items almost tripled. The pay for military recruits has, of course, been raised substantially relative to what it was in the 1960s, but the total pay bill
Table 3

Defense Manpower Costs: By Source\textsuperscript{a}  
\textdollar\textsuperscript{b} billions

<table>
<thead>
<tr>
<th>Year</th>
<th>0-1 YOS</th>
<th>2-3 YOS</th>
<th>Career</th>
<th>Retired</th>
<th>Civilian</th>
<th>Other\textsuperscript{c}</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1946</td>
<td>2.1</td>
<td>2.0</td>
<td>6.8</td>
<td>0.5</td>
<td>5.3</td>
<td>2.6</td>
<td>19.3</td>
</tr>
<tr>
<td>1964</td>
<td>2.3</td>
<td>2.4</td>
<td>7.6</td>
<td>1.2</td>
<td>7.6</td>
<td>4.4</td>
<td>25.6</td>
</tr>
<tr>
<td>1976</td>
<td>5.2</td>
<td>4.6</td>
<td>13.5</td>
<td>7.3</td>
<td>16.6</td>
<td>11.5</td>
<td>59.9</td>
</tr>
</tbody>
</table>

\textsuperscript{a}Source: Richard V.L. Cooper, *Military Manpower...*, op. cit.

\textsuperscript{b}"First-term" broken into less than 2 years of service (recruits) and those with at least 2, but less than 4 years of service.

\textsuperscript{c}Includes family housing, reserve pay and allowances, personnel support, and contract-hires.
for those in their first two years of service—i.e., those most immediately affected by the draft—amounted to only $5 billion or so in fiscal 1976. Thus, the draft provides leverage over only a portion of manpower costs, and that portion adds up to less than 10 percent of total manpower costs. In other words, because the draft provides little or no control over cost elements that collectively make up about 90 percent of the manpower budget, [23] controlling manpower cost growth is not really a question of draft versus volunteer, but will be shown later to be a question of defense resource allocation and manpower management.

Remaining Problems

For the most part, the story of the volunteer force has thus been a story of success. Important problems do persist, however, and primary among these are three specific issues that have been raised during the course of the AVF debate: reserve manning problems, physician shortages, and high attrition rates.

Reserves. In the case of the reserve forces, the perceived problem is one of numbers, insofar as the reserves are about 50,000 enlisted personnel short of their Congressionally authorized strengths,

[23] By way of contrast, the draft provided considerable leverage over budgetary expenditures in the 1950s and early 1960s. Because of the small population base and large force sizes, the budget expenditures required for an all-volunteer military in 1956, for instance, would probably have added from $4 to $8 billion to the defense budget. Combined with the fact that other manpower costs—most notably military retirement—had not yet come home to roost, an all-volunteer military would thus have added between 20 and 40 percent to the manpower budget. In the 1970s and 1980s, just the reverse is true: a large population base, smaller forces, and large "non controllable" costs.
and about 150,000 short of their desired manning levels.[24] That
the reserves should be experiencing some recruiting problems is not
too surprising, since it has been estimated that about 80 percent
of all new reserve recruits before the AVF were draft-motivated--
i.e., they entered the reserves to avoid being drafted into the
active forces. With that motivation gone, so are the large queues of
young men waiting to join the reserves. For at least two reasons,
however, the overall picture may not be quite as bleak as a cursory
examination of these numbers suggests. The first concerns the reason
for the decline in reserve enlisted strengths, while the second
concerns the actual impact of the strength shortages.

Beginning with why reserve force strengths have declined since
the removal of the draft, [25] it should be noted at the outset that
decreasing force strengths in general can be traced to recruiting
too few new personnel, to losing too many personnel from the exist-
ing force, or both. In the case of the reserve forces, although
there has been some falloff in total reserve recruiting since the
beginning of the volunteer force in 1973,--e.g., about 210,000 in
1976 as opposed to about 240,000 in 1972--this decline in recruiting
does not explain all of the strength decline. Rather, much of the
present strength shortfall can be explained by the fact that large
numbers of draft-motivated reservists have become eligible to

[24] "Authorizations" may not be too good a measure of demand,
since these authorizations are based on what the reserves have
estimated that they could achieve, rather than on what is really
desired. As a result, authorizations during the period preceding
the draft's removal may provide a better measure of "real" demand.

[25] Although the reserve forces are about 150,000 short of
their 1970 authorized levels, it is noteworthy that 40,000 of this
deficit occurred between 1970 and 1972, when the draft was still
present.
separate during the past few years—that is, personnel who entered the reserves during the draft years to avoid being drafted and, hence, who have had a very low probability of reenlisting. This means that the reserves have experienced much larger losses from the force than would be expected to occur once these draft-motivated cohorts are replaced by "true volunteers." Without the draft to provide large numbers of new draft-motivated reservists to replace those existing in large numbers, there has therefore been a decline in reserve strengths since the draft's removal. In other words, reserve strength problems can be expected to bottom out in 1978 since individuals who become eligible to separate after that are ones who will have entered the reserves as true volunteers,[26] and are thus more likely to reenlist than their draft-motivated predecessors.

Second, the impact of these strength shortages may be much less than commonly presumed, as the mix of non-prior service (NPS) and prior service (PS) reserve recruits has changed significantly since the draft years, from a 70/30 NPS/PS mix during the draft to a 35/65 mix today.[27] Because of their considerable military training and actual job experience, prior service personnel are probably far more productive than NPS recruits in a wide array of military occupational specialties; NPS recruits must receive a substantial amount of training (which frequently appears to be inadequate for actual job assignments) and are generally very inexperienced. This means, then,

[26] That is, since new reserve recruits have a six-year obligation and since 1972 was the last year of the draft, the last of the draft-motivated reservists will become eligible to separate in 1978.

[27] NPS reserve recruits are individuals who have never before served in the military, and have instead joined the reserves directly from civilian life; PS reservists are individuals who have served in the active forces prior to joining the reserves.
that a smaller force relying more heavily upon PS personnel may be as capable as a larger force composed mainly of NPS personnel, and may be even more capable. Thus, despite the apparent shortages in the numbers of personnel enlisting and remaining in the reserve forces since the end of the draft, today's reserve forces may actually provide a more effective mobilization force than the larger forces maintained under the draft.

This is not to say that the reserves are without problems, for there appear to be many. Rather, these problems probably transcend the questions of the draft versus the AVF; [28] they result instead from the more than 25 years of neglect under which the reserves have struggled. For most of the postwar period, the reserves were an afterthought, frequently provided with only outdated or obsolete equipment. The situation has begun to change significantly, however, and deliberate attempts are being made to upgrade the materiel readiness of the reserves, including some significant improvements in their weaponry and support systems.

Improvement in personnel management has perhaps been even slower. For example, the reserves as they exist today were essentially shaped by the legislation of the Korean War period (and the last major change prior to that time had occurred in the National Defense Act of 1920). Although efforts were made in 1955 to improve the efficiency of the reserves, there has been virtually no change since then—a period of more than 20 years. Secretary of

[28] That is, although a return to the draft would certainly ease the problem of attracting the desired number of reservists, it would not solve the problem of transforming those personnel into an effective standby force. In fact, one has to question how effective the reserves were under the draft when the principal reason for 80 percent of those joining was to avoid military service.
Defense Robert McNamara, unhappy with the mobilization for the 1961 Berlin crisis, proposed a number of structural and organizational changes to the reserves in 1964. Among these was a proposal to virtually eliminate the Army Reserve and assign its functions to the National Guard in order to eliminate unnecessary duplication. The President concurred, but Congress refused to go along with the proposal, so the reserves remained basically unchanged.

Thus, a major review of the reserves seems to be clearly in order since the reserves that McNamara saw as inappropriate for the needs of 1964 are probably even more out of date today. Such a review should include careful consideration of probable threats and responses to them, especially given the many inconsistencies in projected casualty rates (and hence the numbers of personnel needed), deployment schedules, logistic structures, and so forth, that still characterize allied mobilization planning. On the personnel side, consideration needs to be given to the mix of NPS and PS personnel, the use of enlistment bonuses for certain hard-to-fill specialties (e.g., combat arms), the use of some reenlistment bonuses, the development of more meaningful training, and policies for better integrating active and reserve service such as the Navy's 3 x 6 reserve program, [29] among others.

In conclusion, the reserves have had problems since the removal of the draft, but overall, they appear to be no less capable today than they were under the draft. Moreover, the AVF has served to heighten interest in the reserves, and though this interest has at

[29] In the Navy's 3 x 6 program, the individual serves the first three years in an active unit, thereby developing his or her skills and job knowledge. The last three years of the six-year obligation are then served in a reserve unit.
times been misplaced, it hopefully will ultimately lead to the systematic and thorough review of the reserves that is probably required to make them an effective standby force in the 1980s and 1990s. This, of course, will not be easy, given the unique political pressures that are often brought to bear on the reserves, but only after such a review is completed will we know how to best deal with the reserve problems.

Physicians. In the case of medical doctors, the removal of the draft meant that the major source of physician procurement was eliminated. By the end of fiscal 1977, the Services were about 8 percent short of their authorized physician strengths, and the situation appears to be worsening. As with other cases in the AVF, however, the problem is not only one of supply, but is rather one of both supply and demand. Specifically, the solution to physician manning problems rests in both supply-enhancement and demand-reduction programs.

On the supply side, the basic problem is simply that military pay has not been competitive with physician earnings in the civil sector. Even with the maximum special pays of $17,700, military doctors still earn substantially less than their civilian counterparts--$40,000 to $45,000 for military physicians, as opposed to median earnings of $65,000 for civilian physicians. [30] There has been some progress on the supply front, though, as evidenced

[30] The wide divergence shown here is due, first, to Congress' reluctance to implement a bonus program that would pay military physicians more than members of the Congress. Second, the bonus program passed in 1974 was fixed in nominal amounts--$13,500 for the physician bonus and $4200 for special continuation pay--but earnings for civilian physicians have risen by 30 percent since the 1974 enactment of the program.
by the special pay program alluded to above and the medical school scholarship program enacted in 1972. The scholarship program in particular can be expected to significantly improve physician procurement in a few years when scholarship recipients begin to arrive on military duty in sizeable numbers. [31] At the same time, it is clear that a long-run solution to the supply side of the doctor shortage also depends on making military physician pay more competitive with the earnings found in civilian practice—and, hence, in a more generous bonus program.[32]

In terms of demand reduction, progress has been slower, but there are a number of promising options. Perhaps the most promising of these is expanded use of physician extenders (e.g., physician assistants and nurse practitioners)—i.e., personnel who can be used instead of medical doctors for many routine activities in outpatient care. [33] Whereas expanded use of physician

[31] The longer run prospects for the scholarship program, however, depend critically on how the Congress structures the program and how the military manages it. For example, inflation has seriously eroded the value of the scholarship stipend, which has remained at $400 per month since the program’s inception in 1972. The value of the scholarship will be reduced further, if present plans to remove the nontaxable status of the stipend and tuition are carried out. Finally, the military’s scholarship program may run into serious competition from HEW’s recently established National Health Service Corps scholarship program, especially if the military reduces the students’ residency options, as is now being contemplated.

[32] Recent research shows that physicians are in fact quite responsive to monetary incentives, so that a more generous bonus program could alleviate much of the military’s physician retention problem. See, for example, David S.C. Chu and William Albright, The Supply of Air Force Physicians: Response to the Bonus and Scholarship Programs, The Rand Corporation, unpublished manuscript, 1975.

[33] A pilot program in the military has in fact demonstrated the usefulness of physician assistants. See, for example, David S.C. Chu, et al., The Organization of Air Force Outpatient Care, The Rand Corporation, unpublished manuscript, 1976.
extenders reduces the need for physicians by shifting the delivery of a given amount of health care, there are other options for reducing the total amount of care given. For example, establishing a "nuisance" charge for the use of military medical facilities by dependents and retirees [34]—much as most prepaid health care plans in the civilian sector have set up for their subscribers—and eliminating outdated policies such as those that require enlisted personnel to see a physician in order to be eligible for sick leave would help to curb much of the unnecessary demand for military medical care.

Together, these supply-enhancement and demand-reduction programs can probably solve the physician manning problem in such a way that the military can continue to provide the quantity and quality of health care that it has since the end of World War II. Indeed, these programs should have been implemented at the outset of the volunteer force since the problems attendant to maintaining an all-volunteer military medical corps were well recognized long before the draft was ended. Thus, in a sense the military is now paying for its and Congress' inaction during the early 1970s.

Attrition. Certainly one of the most troublesome problems to emerge from the first few years with the volunteer force concerns first-term enlisted attrition—that is, failure of many enlisted personnel to successfully complete their first tour of duty. Whereas first-term enlisted attrition rates were somewhere in the neighborhood of 20 percent during the Vietnam-era draft, they are

[34] It should be noted that between 60 and 70 percent of all outpatient visits are for the treatment of dependents and retirees.
currently running 35 to 40 percent. These high attrition rates both
drive up costs and increase the Services' demand for new recruits.

Although current attrition rates are probably far larger
than desired, simple comparisons of attrition under the draft and
the AVF are misleading. First, much of the increase can be
explained by the change in Service quality standards described
earlier. That is, the enormous reduction in Category IV recruits
has come at the expense of a modest increase in the numbers of high
school dropouts brought into the force; yet, Category I-III high
school dropouts have attrition rates roughly twice as high as those
for Category IV high school graduates.

Second, we would expect attrition rates to be somewhat higher
for a volunteer force than for a drafted force since the military
could not afford to allow easy exit under the draft, even for
substandard performance and disciplinary problems, lest many
draftees and draft-motivated enlistees deliberately disqualify
themselves. By allowing for more easy discharge under the
volunteer force, the military can rid itself of personnel that will
cause problems in the future. At least partially because of this,
the military under the AVF has seen various indicators of
indiscipline such as desertion, crimes of violence, hard drug
usage, and incarceration in military jails fall significantly
since the removal of the draft.

The above notwithstanding, attrition rates must be reduced.
Part of the solution probably rests in more careful selection at
the time of recruiting (not just limited to the current very broad
screens such as mental aptitude and educational attainment),
better counseling during individuals' service careers, and more
even management of attrition within each of the Services (i.e., although each of the Services has a set of policies and procedures with respect to attrition, the actual administration of these policies and procedures can and often does differ significantly in the field). The extent to which the attrition problem can be solved through these efforts remains unknown, but the problem clearly warrants most careful attention.
MANPOWER MANAGEMENT AND UTILIZATION IN A VOLUNTEER ENVIRONMENT

Conscription has not been used for some five years. But to assume that the draft is entirely history is to fail to recognize the imprint that it has left throughout the defense establishment, especially on the ways that the military manages and uses its personnel. Dealing effectively with this legacy will be one of the most formidable obstacles that the Department of Defense and Congress must face during the next decade.

In a managerial sense, the elimination of the draft was a major shock. The immediate effect of ending the draft was a substantial increase in the budget cost and scarcity of new recruits. The full impact, though, is clearly much larger since, in a draft environment, the military could afford to be dominated by policies and traditions that ran counter to the general thrust of change in the outside civilian environment. Whereas the draft ensured an adequate supply of manpower, almost no matter what personnel policies that the Services followed, the Armed Forces must now be responsive to the conditions of change in the civilian world.

The removal of the draft has thus altered the entire philosophy under which the military must manage its human resources. Once plentiful and seemingly cheap manpower is now scarce and expensive. Policies adopted for reasons of convenience and equity must therefore be reevaluated in terms of efficiency as well. In short, manpower is important, so cost-effective solutions to the manpower problem must be developed and implemented.

The possible efficiency gains that could result from new policies of manpower management and utilization—and the corresponding cost
savings--have so far gone largely unrealized. These improvements will require greater understanding of the volunteer force, since the AVF provides the context for improved management; but more important, it is essential to address major areas in need of reform: 1) manpower requirements; 2) compensation, retirement, and tenure policy; and 3) military training.

Manpower Requirements

Manpower requirements are a fundamental issue in terms of the overall cost and effectiveness of U.S. military forces. In this regard, manpower requirements are in general a function of four basic factors: the force structure, operations and maintenance policies, the amounts and types of equipment in the force structure, and the types of personnel used. At the most aggregate level, the numbers of personnel required are determined in large part by the basic structure of the force, where by force structure we mean, first, the numbers of divisions, ships, air wings, and so forth; second, their internal makeup (e.g., the mix of armored and infantry battalions in a division or the mix of strategic and tactical aircraft); and, third, the support infrastructure, including such items as the training establishment, medical support, and central supply. In addition to the role played by force structure, the numbers of personnel needed are also driven by basic operations and maintenance policies such as the frequency of maintenance and overhaul cycles and the mix of depot, intermediate, and field maintenance activities required to support the force structure.

Third, the numbers of personnel required to man the force are a function of the amount and types of equipment in the force. On
the one hand, more equipment (e.g., tanks) means that more personnel will be needed, other things equal. On the other, equipment can in some cases be substituted for manpower, and vice versa. The substitution of a fork-lift truck for a warehouseman and the use of replaceable rather than repairable parts are examples. Last, though generally less well-recognized, manpower requirements are also determined in part by the types of personnel used to man the force structure. Fewer very productive personnel can be used to replace a larger number of less skilled personnel, for instance.

Together, these four factors help shape the Services' manpower requirements. In a sense, the first two--i.e., force structure and operations and maintenance policies--can be viewed as establishing the size and organization of the defense effort, while the last two can be viewed largely as matters of resource allocation, given decisions regarding the first two. In other words, the allocation of defense resources has a major impact on manpower requirements. Historically, the problem is that manpower costs have seldom entered as a criterion for determining either the basic structure of the force or the way that resources will be allocated within that force structure. Only when individual requirements become aggregated into major program elements of the individual Service budgets has a real concern for costs emerged. This concern, though, has often resulted in gross adjustments such as force structure cuts rather than a reallocation of resources within a given force structure. Yet, such reallocations can save billions of dollars per year without degrading force capabilities.

Thus, although manpower requirements should be determined in broad terms by the overall defense mission and consequent force structures, equally important are the costs of various inputs to the
defense mission. The basic problem is that in recent years the mission, the nature of the force structure, and the costs of particular inputs to the defense mission have changed significantly. But manpower requirements have been slow to adjust. In this regard, removal of the draft has raised three particular resource allocation issues: 1) the mix of manpower and equipment, 2) the mix of civilian and military personnel, and 3) the experience mix of the force.

**Capital Labor Substitution.** At the most aggregate level of defense decisionmaking, the question of defense resource allocation can be viewed in terms of how defense resources are distributed between the manpower and nonmanpower inputs to the defense mission or, equivalently, between capital and labor.

On the cost side, the policy question is not so much how manpower costs in isolation have increased, but rather how the cost of manpower have changed relative to the costs of other defense inputs, and most notably, relative to the cost of capital. Analytically, it is thus necessary to measure the cost per unit of labor services and the cost per unit of capital services. The results of such a comparison, which are shown in Fig. 4, reveal that the cost of labor has in fact risen significantly--i.e., by some 40 to 50 percent--relative to the cost of capital during the past 15 years or so.[35]

---

[35] The modest decrease in the cost of labor to the cost of capital (i.e., w/r) that took place between 1973 and 1976 is basically a result of timing differences in the 1970s inflation. Specifically, whereas the early 1970s were dominated by unusually large wage growth (not only in the military, but across the entire U.S. economy), the 1970s inflation did not really hit the wholesale price indexes for capital equipment (and, hence, the cost of capital to the military) until about 1974. Aided further by the pay "caps" imposed on Federal employee pay in 1975 and 1976, which thus helped to hold down the rate of increase in the cost of labor to the military, this meant that w/r declined somewhat between 1974 and 1976. By 1977, though, these differences in timing had largely worked themselves out, so that w/r was once again on the rise.
Thus, the increasing compensation costs described in the last section have not only made manpower more expensive in an absolute sense, but they have also made manpower more expensive relative to capital, the other major input to the defense mission.

From a policy perspective, then, the next question concerns how the DoD and the Congress have responded in terms of the allocation of defense resources between capital and labor. That is, economic theory tells us that as the cost of labor to the cost of capital increases, the military ought to substitute capital inputs for labor inputs, thereby increasing the capital/labor ratio. Abstracting from the Vietnam War buildup and drawdown, Fig. 4 shows the almost incredible result that the capital/labor ratio remained virtually unchanged from the mid-1950s to 1971. After the Vietnam War there was a modest increase in the capital/labor ratio, about 10 percent between 1971 and 1974. Yet, this increase was accomplished solely by reducing the labor input, not by substituting capital for labor. In fact, the capital stock was also decreasing during the three years, just not as rapidly as the labor stock. By fiscal 1975 the continued decline in the capital stock had overtaken the decline in the labor stock, so that capital was not only not being substituted for labor, the capital/labor ratio was actually declining—ending up in fiscal 1977 at about the same level that it was in 1964.

Thus, there has been virtually no response in terms of the mix of manpower and equipment used in the defense mission, despite the fact that manpower costs have increased significantly relative to nonmanpower costs. Consideration ought therefore be given to finding ways of substituting equipment for manpower, especially in the support areas. Such substitutions might include the development of
Fig. 4 — Indexes of DoD cost of capital and cost of labor

Source: Richard V.L. Cooper, Military Manpower ..., op. cit.
less maintenance-intensive systems and automating currently labor-intensive support functions.

Given the potential savings that could be realized from capital/labor substitution, which are estimated to be between $1 and $2 billion per year in the long run, [36] the next question concerns why substitutions have not taken place. First is the asymmetry of the budget process. Whereas labor is generally paid when its service is rendered, capital equipment generally provides its services long after the initial period of purchase. Because increasing the capital stock requires substantial outlays during the period of buildup, the pressure to hold down the current defense budget impedes the substitution of capital for labor. Second, the problem is compounded by the fact that when capital/labor substitutions have been made in the past, the focus has usually been on weapons systems (which are already quite capital intensive) and the intent has been to increase technology. The frequent result has been that new capital equipment has resulted in major increases—not decreases—in the amount of maintenance required, so that the presumed efficiencies have never taken place. This, in turn, has led to a skepticism about the future labor savings to be gained from capital-labor substitution. Thus, capital-labor substitution ought to focus more on support systems in the future, and should probably rely more heavily on currently available technology.

A third reason for the lack of substitution concerns the historic view of the military production process. Specifically, there are many combinations of inputs that can be used to achieve a given

set of defense objectives, but the tendency has been to focus on the production process as having fixed-factor coefficients—e.g., \( x \) number of maintenance man hours are required for \( y \) flying hours. Finally, though no less important, the Congress and the military leadership tend to be far more concerned with the short run than the long run. Because the savings from capital/labor substitution are very clearly a long-run proposition, the most productive types of substitutions may never be considered.

**Military-Civilian Substitution.** Just as resources can be reallocated among broad categories of inputs such as capital and labor, they can be reallocated within these broad categories. One such example is the substitution of civilian personnel for military personnel, a process better known as "civilianization."

Unlike capital-labor substitution, which has received relatively little attention in the DoD or the Congress, the civilianization issue has generated a lively debate. Civilianization has been viewed by many as a possible solution to spiraling military manpower costs. However, in the rush to identify potential civilian substitutions, critics of DoD policies have frequently been more concerned with whether civilians can be used to perform certain functions than whether they should be used. That is, much of the civilianization debate has been based on the assumption that civilians are less expensive than military personnel, an assumption that has seldom been empirically tested.

At the same time, the concern about rising military personnel costs is not without some empirical foundations, as shown in Fig. 5. With the "catch-up" pay raises for career military personnel passed in the late 1960s, the AVF pay increase in 1971, and the removal of
Fig. 5 — Military and direct-hire civilian personnel utilization and costs: (a) ratio of number of civilians to number of military personnel (index 1964: 100) and (b) ratio of average cost of military personnel to average cost of civilians (index, equal cost: 100)

Source: Richard V.L. Cooper, Military Manpower, op. cit.
the draft in 1973, the costs of military personnel have in fact risen during the past 10 years relative to the costs of civilian employees in the defense payroll (i.e., direct-hire civilians). However, the results presented in Fig. 5 indicate that the military has in fact responded to much of this increase, since the ratio of direct-hire civilians to military personnel has likewise increased. In other words, as the costs of military personnel have risen relative to those of direct-hire civilian employees of the Defense Department, the Services have substituted direct-hires for uniformed members.

Moreover, by the mid-1970s the results shown in Fig. 5 indicate that the average cost of filling particular positions is about the same for direct-hires and military personnel. In fact, there is only a few hundred dollars difference today between the average annual costs of these two sources of labor input. It is not that military personnel are inexpensive, but rather that civilian employees of the Federal government are also very expensive. In other words, a large-scale substitution of direct-hire civilians for uniformed personnel is unlikely to yield major cost savings.

A substitution possibility that does have the potential for major cost savings, though, is to make greater use of so-called contract hire personnel--i.e., personnel working for private-sector firms under contract to the military. Because they do not have to be given large amounts of training and because their fringe benefit packages do not tend to be quite so exorbitant, contract-hires cost about $4000 per year less on average than either military or direct-hire civilian personnel. Moreover, civilian firms tend to use their personnel more efficiently than the Government.
Overall, it appears that savings on the order of $500 million to $1 billion per year could be realized by contracting out for about 250,000 positions currently staffed by military and direct-hire civilian personnel.[37] Thus, the issue does not seem to be so much one of substituting government-employed civilians for military personnel as it is one of making greater use of civilian contractors.

First-Term/Career Substitution. Perhaps the most important, but least recognized type of resource allocation issue raised by the removal of the draft concerns the experience mix of the force--specifically, the mix of first-term and career personnel.[38] Because of the closed nature of the military personnel system--i.e., the military draws its experienced personnel from within the system--the experience mix of the force has long been recognized as one of the major manpower planning problems. The historical concern for the experience mix of the force, though, has been largely based on "personnel" factors such as maintaining adequate promotion rates, as opposed to requirements factors.

With the advent of the All-Volunteer Force, the experience mix becomes a "requirements" issue as well. Increases in recruiting costs

---

[37] This conclusion is given additional support by two recent studies, which compared the costs of providing base operating support (BOS) at two different Air Force bases, one contractor operated (Vance) and the other operated in the standard Air Force manner (Reese). Both studies found Vance AFB to be about 10-30 percent less expensive than Reese AFB. See Robert Paulson and Arnold Zimmer, An Analysis of Methods of Base Operating Support: Contractor Operations Versus Standard Operations at Two Undergraduate Pilot Training Bases, The Rand Corporation, Santa Monica, California, February 1975; and Robert Shishko, Robert Paulson, and Wayne Perry, Alternatives for Base Operating Support at Undergraduate Pilot Training Bases: An Update, The Rand Corporation, Santa Monica, California, forthcoming.

[38] The terms "first termers" and "careerists" are a verbal convenience used to describe personnel with less than four years of service and four or more years of service, respectively.
and the pay for first termers has meant that the budget cost for
first-term personnel has increased dramatically relative to those of
career personnel since the early 1970s. Economic theory tells us
that as long as first-term and career labor are to some extent sub-
stitutable for one another, this rise in the cost of first termers
relative to the cost of careerists ought to be accompanied by a
reallocation of military labor resources in favor of career personnel.
Yet, the Services continue to rely on the same mix of first-term and
career personnel than they did during the pre-Vietnam draft---about
60 percent first termers and 40 percent careerists---despite the much
larger costs of first termers.

Substitution of career enlisted personnel for first termers
would therefore not only help to reduce enlisted accession require-
ments, per the discussion earlier, but could result in substantial
cost savings as well. First, new recruits incur large recruiting and
training costs. Second, because of the large amount of time spent in
processing, traveling, and training---which, together, average about
six months for each new recruit---first termers are unavailable for
job assignments for a substantial portion of their first tour of
enlistment. Third, first termers are generally less productive on
actual job assignments than more experienced personnel. Although
there may be relatively little difference between first termers and
careerists for low-skill military occupations, there appears to be a
substantial premium to experience for medium- to high-skill
occupations.[39] And, about 70 percent of all enlisted personnel are

[39] See, for example, Robert M. Gay and Mark Albrecht, Measur-
ing On-the-Job Performance of First-Term Enlisted Personnel, The Rand
Corporation, forthcoming.
in medium- to high-skill specialties. [40] Finally, the substantial first-term enlisted attrition described earlier means that many of the costs expended for recruiting and training are never recouped for first-term personnel.

The end result is that significant cost savings—in the neighborhood of $2 billion per year—could be realized by shifting from the current 60/40 mix of first termers and careerists to a 55/45 mix or a 50/50 mix.[41] The magnitude of these cost savings derives in large part from the fact that far fewer personnel would be needed under the more experienced force to maintain the current level of defense capabilities—e.g., 1.6 million members under the 50/50 mix, as opposed to the current 1.8 million enlisted members.[42]

Given the importance of the first-term/career mix allocation problem, the question then becomes one of why the Services have not adjusted to the increasing cost of first-term personnel. First, the military has tended to view the experience mix of the force as a personnel issue rather than as a manpower requirements or resource allocation issue. Second, the Services have traditionally viewed senior personnel as supervisors rather than as senior technicians. Since the payoff from a more senior personnel mix obviously does not come from adding more supervisors, the extent to which the military can make more extensive use of senior personnel depends in part on

[40] It is interesting to note that only about 10 percent of all enlisted personnel are in combat activities. The other 90 percent are in various maintenance, support, and clerical activities.
[42] It should be noted that 60,000 of this 200,000 reduction comes out of the military training establishment, i.e., fewer trainers and fewer trainees. That is, since a more senior experience mix means that there will be fewer personnel in training (because there are fewer recruits) and, hence, that fewer trainees will be needed.
its willingness to reconsider the traditional uses of senior enlisted members. Third, because the Congress exerts considerable pressure to reduce the numbers of enlisted personnel in senior paygrades, the transition to a more senior personnel mix is hindered by Congressional constraints. The results presented here, however, suggest that the problem is not necessarily one of too many personnel in the higher pay grades, but rather one of too many personnel in unproductive activities, such as training.

Manpower Management

As important as the issues of resource allocation and manpower requirements are those concerning the ways that the Department of Defense manages and compensates its personnel. For convenience, manpower management can be thought of as an umbrella covering the wide variety of individual policies related to such specific issues as recruitment and retention, assignment, training and education, promotion, career development and progression, tenure, compensation, and retirement.

Due in part to the way that it helped to insulate the military from the marketplace, the draft had a subtle, but pronounced effect on the development and evolution of management policy throughout the postwar period. The problem, though, is that with the exception of military compensation, manpower management policy tends neither to be very visible nor very susceptible to change in the short run. Yet, policies that were originally based on the every inexperienced enlisted force provided by the draft or that were adopted more for reasons of administrative simplicity than cost-effectiveness must be reevaluated in light of the draft's removal. The payoff to changing management policy can be measured not only in terms of cost
savings, but also in terms of the quality and capabilities of the force. The individual examples are many, but four general areas stand out: military training, career management, compensation, and retirement.

Training. Military training is one of the most costly and important functions performed by the DoD. In fiscal 1977, more than 1.25 million students attended more than 6,000 courses, some lasting only a few days while others extended for up to two years. The manyear equivalent of those engaged in or supporting formal military training amounted to 18 percent of all military personnel, at a cost of more than $6 billion. The cost of all training is much larger, however, because of the extensive amount of on-the-job training (OJT) that takes place. Though it is difficult to pinpoint the exact amount of OJT, rough estimates place the value of instructor and trainee time spent in OJT in the neighborhood of $3 billion per year.[43]

Although individual military training has clearly been recognized as one of the key policy problems, most attention has been directed to improving the efficiency of the training establishment in the narrow sense—that is, in designing better courses, reducing the student-to-staff ratio, and so forth. Equally important, though less obvious, is the impact that manpower policies developed and implemented over the past 25 years have had on the magnitude of first-term enlisted training, the largest single component of the training establishment.

Specifically, first-term enlisted training costs are determined in a large part by the numbers of such personnel receiving training and by course length. Shifting to a somewhat more career-intensive force would dramatically reduce the numbers of personnel that receive basic and skill training because of the smaller numbers of new recruits. In addition, first-term enlisted personnel would not be required to perform such a wide variety of tasks under a more career-intensive force since first termers could be used in jobs for which they are better suited. As a result, fewer tasks would need to be taught to first termers—hence, shorter courses. Advanced career training could then be deferred until after the reenlistment point, with the result that individuals could make better use of the skills taught to them. In addition, deferral of advanced skill training would greatly reduce the unrecoverable training costs resulting from first-term enlisted attrition.

Thus, by placing such a heavy reliance on junior personnel, the draft had a hidden, but important effect on the magnitude and conduct of military training. In other words, the key to making major savings in training is not necessarily in designing better courses, though improvements should be sought here as well. But rather, the problem can be traced back to the numbers of accessions and the types of jobs that first termers perform. That is, what would at first appear to be a training problem is in reality a requirements problem.

Career Management: Promotion, Tenure, and Rotation. The personnel policies developed over the last thirty years reflect a management orientation geared more toward structuring an internally coherent personnel system than toward developing a
system designed to meet force structure requirements. That is, the personnel system has come to be viewed as an end in itself. Moreover, the policies that have come out of this environment are not the result of well defined criteria, but rather tend to be based largely on notional standards and the desire to provide predictable career patterns followed by early retirement.

Certainly one of the most important issues in the area of career management concerns the rigidity of the current personnel system. Insulated by the draft, the military did not have to develop innovative solutions to personnel problems, but rather, for reasons of administrative convenience, tended to adopt rigid rules governing such areas as promotion, career length, and rotation. In the case of promotion, for instance, the narrowness of the promotion zones means that promotion and pay are tied largely to years of service, so that the system places a premium on age instead of proven performance and capability. This often limits the opportunities for the brightest and most able young officers and enlisted members, thus encouraging them to leave, while the less outstanding are encouraged to remain.

These rigidities are evidenced elsewhere, such as in the frequent and forced rotation of military personnel from job to job. Much of this rotation can be traced back to the desire to even out the "burdens" of undesirable assignments. Not only are the costs associated with these moves large, about $1.7 billion annually, but the hardships created by the frequency of these moves is a major reason for personnel leaving the service and tends further to isolate military personnel from their surrounding communities. An alternative approach would be to allow for greater flexibility in
tour lengths and rotation. For example, the Air Force found that many personnel were glad to stabilize for a period of up to five years at Minot Air Force Base, which was previously classified as an "undesirable" assignment. Again, the key is not in arbitrarily extending all tours, but rather is in allowing for more flexibility.

Fundamental changes in the system ought therefore to be considered. Yet, there is the persistent tendency to focus on symptoms rather than causes. For instance, the "Up-or-Out" system helps prevent the military from encountering all the management problems associated with the Civil Service system, but it is continually questioned.[44] The problem with Up-or-Out is not the basic concept, but rather the ways that it has come to be applied over the years. To illustrate, a recent survey shows that nearly 50 percent of all enlisted personnel would prefer to remain technical specialists rather than assume supervisory responsibilities, but the promotion system either forces them into supervisory positions or out of the service altogether.[45] By developing a personnel management system that would allow senior service members to meet the requirements for either technical or supervisory positions--i.e., a two-track promotion system--the Services could make better use of senior personnel and, yet, the integrity and basic content of up-or-out could be maintained.

Compensation. With total costs amounting to more than $40 billion in fiscal 1978, military compensation is the single largest

---

[44] Under the "Up-or-Out" system, individuals not reaching the next higher grade within some specified period of time are forced out of the service altogether.

component of defense spending and, in the absence of a draft, is perhaps the most important policy instrument available to the DoD for procuring and retaining the numbers and types of personnel needed to man the nation's Armed Forces. Due in part to the general philosophy that has guided the military's overall management approach, the military compensation system has evolved over time into a very costly patchwork of separate legislation and regulations designed more to reward past service than to meet external market conditions. The end result is a system where personnel of similar rank and experience are paid similarly—almost irrespective of the prevailing supply and demand conditions or the individual job responsibilities.

It would of course be a mistake to assume that the military compensation system has been entirely unresponsive to the changing supply and demand conditions of the past three decades, but the types of changes made to military compensation during this evolution have for the most part been changes at the margin. The fundamental revisions that are needed to bring military compensation policy in line with the needs of the post-draft environment have been noticeably absent. Thus, the military compensation system has many of the same problems as the system of promotion and tenure. It was developed for the needs of a different environment and tends to emphasize rewards for time served more than actual accomplishments.

Because the military must now compete directly with other civilian employers for all its personnel, policies regarding the level, structure, and composition of military compensation that were implemented largely for reasons of equity or administrative convenience must now be reevaluated in terms of efficiency as well. This argues, first, for viewing the compensation system in total, rather than
only in terms of its component parts. For example, "reforms" such as the elimination of commissary privileges and reenlistment travel benefits frequently save little money but often cause great dissatisfaction among the troops. More generally, it argues for fundamental revisions in compensation policy—not just changes at the margin.

The amount of military pay is clearly a major issue. Under current law pay is presumably set according to the so-called comparability principle. Although originally intended to keep Federal pay (military and civilian alike) competitive with the civilian sector, the actual result of the current system is probably to pay far more than necessary. First, military pay is not in fact linked directly with private sector wages and salaries, but is instead tied through a rather arbitrary set of linkages to the General Schedule salary system. Although it leaves the enlisted pay line just about equivalent with the (median) lifetime earnings profile for white high school graduates in the private sector [46], this approach puts the pay for an average officer in the top one-quarter of all

[46] This did not happen by accident, since the Gates Commission pay recommendations, which were adopted in large part by the Congress, were based on the median earnings according to age of white high school graduates in the civil sector. Age-earnings profiles are chosen as the basis for comparison since the military generally does not recruit for specific jobs, but rather for a set of jobs over the course of a career, whether that career is one term or many. In other words, the military is competing more for certain types of individuals rather than for specific jobs. Whites are further chosen as the basis for comparison in order to sidestep the problems created by the pay discrimination that has historically been practiced against blacks.
white college graduates.[47] That is, the average officer is paid more in salary alone than the wages and salaries earned by 75 percent of his comparably aged and educated civilian counterparts. Therefore, the current system pays more than a "comparable" wage, at least for military officers.

Second, the current comparability approach is stated in terms of pay alone. Given that military personnel receive a far more generous fringe benefit package than their civilian counterparts, total military compensation thus exceeds that in the civilian sector. Indeed, summing all the components of military compensation. Figs. 6 and 7 reveal that military officers who serve a full career earn about 70 percent more, and enlisted personnel about 30 percent more, than comparably aged and educated civilian workers.[48] This in itself does not imply that military pay is too high, though the sizeable queues waiting to join ROTC suggests that paying too much, especially for officers, is a distinct possibility. Rather, the point is that the pay profiles shown in Figs. 6 and 7 are not the result of a well-designed, systematic appraisal of the amount needed to attract and retain the desired numbers and types of personnel.

[47] This result is partially attributable, first, to a statistical error whereby the Gates Commission overestimated the earnings of college graduates by about 10 percent and, second, to the political decision in 1971 when the House insisted on a substantial increase in the quarters allowances for career personnel. This, in fact, caused such an uproar that the Senate almost sent the House bill back to conference.

[48] These calculations are based on estimates of such fringe benefits as medical, social security, and retirement. Retirement benefits were calculated for military personnel as though military retirement was funded on an actuarial basis throughout the individual's career. Also shown are calculations assuming the individual does not remain until eligible for retirement, so that there is no implicit contribution toward future retirement.
Fig. 6 – Total military enlisted compensation versus total compensation for white high school graduates (WHSG) and white non-high school graduates: CY 1974

Source: Richard V.L. Cooper, Military Manpower ..., op. cit.
Fig. 7 – Total military officer compensation versus total compensation for white college graduates (WCG): CY 1974

Source: Richard V.L. Cooper, Military Manpower ..., op. cit.
Equally important, the comparability principle, as it has been rigidly interpreted, focuses on average pay. This ignores the realities of the market where there are wide differences in compensation for different occupations. Similarly, it fails to recognize differences in achievement so that, for example, there is less than a 5 percent pay differential during the first 15 years of service between the most outstanding and the marginal officer. The appropriate market analog is competitiveness, not comparability.

The composition of the pay package is another major issue. Numerous studies indicate that military personnel do not value the many hidden and not-so-hidden benefits that make up the pay package as much as these elements cost the government.[49] Accordingly, the DoD and the Congress ought to consider revising the composition of the pay package so that the individual recipients place the appropriate value on what they receive. For example, a "salary" system is one possible solution. More generally, because it is unusual to find compensation systems in the civilian sector that place such an emphasis on hard-to-evaluate fringe benefits, explicit consideration ought to be given to revising the balance of military pay and fringe benefits in favor of the former.

A preferred approach to compensation would probably be, first, to integrate the numerous elements of the overall package

[49] For example, unpublished tabulations from the 1976 DoD Personnel Survey show that military personnel not only underestimate the value of their fringe benefits, but they also undervalue their RMC. These results are very consistent with those shown in the First Quadrennial Review of Military Compensation in 1967, ten years earlier (see Modernizing Military Pay, U.S. Government Printing Office, Washington, D.C., 1967).
into a cohesive whole. Second, pay levels should be based on the competitiveness principle—i.e., it should be set so as to just clear the market—rather than on comparability. This means, for example, more extensive use of discretionary differential pays such as bonuses and revising the current pay table approach to setting military pay. Specifically, changing the current rank and years-of-service pay table to a rank and time-in-grade pay table, coupled with increased flexibility in the promotion points (especially at the junior pay grades), could provide incentives for the most qualified personnel to remain and simultaneously provide adequate compensation for the less outstanding but still useful members of the force. The end result would probably be increased efficiency at substantially reduced compensation costs.

**Retirement.** Military retirement is one of the fastest growing and largest components of manpower costs, having increased from $477 million in FY1956 to the more than $9 billion budgeted for fiscal 1978. The present retirement system, however, is based in many ways on a series of conditions that no longer prevail, such as a small standing military, a heavy concentration in the combat arms, and limited pay. Military retirement was originally viewed more as a deferred payment (to compensate military personnel for the low pay during their years of active service) than as an old-age sustenance. Now that military pay equals or exceeds civilian pay, the basic purposes of the retirement system need to be reexamined.

The reason why the current retirement system is so enormously expensive can be seen by the fact that if the DoD had to fund future retirement benefits on an actuarially sound basis,
it would have to set aside an amount equal to about 50 percent of the annual regular military compensation (RMC) during each year of active service for each member that will eventually retire. This 50 percent stands in marked contrast to the 5 to 20 percent that characterizes most private sector plans. Yet, the Services have little incentive under current policy to economize on retirement costs, both because the costs do not enter the Services' own budgets and because they enter the DoD budget when paid rather than when the liability is incurred.

Equally important, the nature of the provision of retirement after 20 years of service, but not before, means that there is very little turnover between the eighth and twentieth years, but then there are large losses. For example, about 95 percent of all enlisted personnel and 60 percent of all officers who reach retirement eligibility (i.e., 20 years of service) retire before their 25th anniversary. Consequently, the DoD has little flexibility in adjusting personnel to meet requirements for those serving between the first term and the twentieth year. At the same time, strong financial incentives for early retirement mean that many outstanding officers and enlisted men are lost to the service during their most productive years.

There are, however, reasonable alternatives. First, the 20-year career is both too long and too short. On the one hand, more personnel should be encouraged to serve 8 to 15 years. This means that some partial vesting ought to be incorporated into the retirement plan so that those serving less than 20 years would receive some deferred
retirement annuity, collectable at say age 65.[50] On the other, of those individuals who serve at least 20 years, more should be encouraged to serve longer, for 30 or 35 years. That is, whereas the 20-year career has historically been based on the needs of the combat soldier, only about 10 percent of all military personnel serve in the combat arms. To encourage those eligible for retirement to serve longer, the retirement package could be changed so that those serving less than 30 years would have their annuities reduced by some specified percentage until age 65, for instance. More generally, though, it is clear that the costliness of the current retirement system makes retirement reform urgent.

[50] Because the military is (justifiably) reluctant to separate those with 15 or more years of service prior to their retirement eligibility, partial vesting of this sort would have the additional advantage of making the military less morally obligated to keep marginal performers until the 20-year point.
CONCLUSIONS

The results from the first five years without the draft have thus shown that the volunteer force has worked. Although there have been some spot problems, such as manning the reserve forces, the Services have shown that they can attract a socially representative mix of the desired quantity and quality of personnel needed to man the nation's Armed Forces without the draft and at a cost substantially less than commonly assumed. In fact, considering the magnitude of the undertaking, it is perhaps surprising that more problems have not been encountered. Assuming that the military begins to reduce its personnel turnover rates, and barring major unforeseen circumstances, the All-Volunteer Force can therefore probably meet the nation's military manpower needs for the remainder of this century.

At the same time, there has been a failure--not with the volunteer force, but with the AVF policy debate. Specifically, most of the concerns raised thus far during the post-draft debate are either unfounded or misplaced. In many instances, the debate has been factually incorrect; there has been a tendency to take issues and statistics out of context; and there has been a failure to distinguish what might be termed as general manpower problems from those specifically related to the volunteer force. The problem in this regard is that, in making the volunteer force the scapegoat for more general manpower problems, the AVF debate has diverted attention from the more important, but less visible issues of resource allocation and manpower management--issues that need to be resolved irrespective of the volunteer force.

The more general implication to be drawn is that the removal of the draft presents an opportunity to make better use of defense
resources--an opportunity that was not always present under nor encouraged by the draft. The importance of this point is dramatically underlined by the fact that the relatively modest changes discussed here could possibly yield long run annual cost savings of some $5 to $10 billion. Stated differently, without these changes the defense budgets of the 1980s and 1990s will be $5 to $10 billion per year larger than they need to be.

To summarize, the AVF can be made to fail. But it can also be made to work--and perhaps much better than its draft-dependent predecessor. Whether or not its potential is realized will depend critically on the policies that the Department of Defense and Congress adopt and implement during the next ten years, for the true test will occur in the 1980s. The importance of these findings for national defense is obvious since, if this potential is not realized, society may not be willing to pay the escalating costs emanating from the current approach and, as a consequence, may simply cut forces.